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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,498	05/30/2001	Kazutoshi Onozawa	10873.736US01	9056

7590 07/16/2003

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EXAMINER

ORTIZ, JORGE L

ART UNIT	PAPER NUMBER
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2697

DATE MAILED: 07/16/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

10

Office Action Summary

Application No.

09/867,498

Applicant(s)

ONOZAWA ET AL.

Examiner

Jorge L Ortiz-Criado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner. /

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figure 13 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takekoshi et al. U.S. patent No. 5,600,619 in view of Park U.S. Patent No. 5,986,998.

Regarding claim 1, Takekoshi et al. discloses an optical pick-up (See Abstract; col. 1, lines 5-13) comprising

a movable portion on which at least a semiconductor laser element irradiating an optical recording medium with laser beam (See Abstract; col. 1, lines 5-13; col. 3, lines 5-67; col. 5, lines 16-34; Figs. 1,2,4) and

an objective lens converging laser beams emitted from the semiconductor laser element are mounted (See col. 3, lines 5-67 to col. 4, lines 1-12; col. 5, lines 16-34; Figs. 1,2,4),

a fixed portion supporting the movable portion (See col. 3, lines 5-67 to col. 4, lines 1-12 Figs. 1,2,4), and

a supporting component connecting the movable portion to the fixed portion so that the movable portion is rockable in a focus direction and a tracking direction of the optical recording medium (See col. 3, lines 5-67 to col. 4, lines 1-12 Figs. 1,2,4);

Takekoshi et al. fails to disclose a plurality of semiconductors, wherein at least two of the pluralities of semiconductor laser elements have a different lasing wavelength from each other and an optical axis of the semiconductor laser element having the shortest wavelength is aligned with the center of the optical axis of the objective lens.

However this feature is well known in the art as evidenced by Park, which discloses a plurality of semiconductors, wherein at least two of the pluralities of semiconductor laser elements have a different lasing wavelength from each other and an optical axis of the semiconductor laser element having the shortest wavelength is aligned with the center of the optical axis of the objective lens (See Abstract; col. 3, lines 27-55; col. 4, lines 32-51; Figs. 3,4).

Therefore it would have been obvious to one with ordinary skill in the art at the time of the invention to include a plurality of semiconductors wherein at least two of the pluralities of

semiconductor laser elements have a different lasing wavelength from each other and an optical axis of the semiconductor laser element having the shortest wavelength is aligned with the center of the optical axis of the objective lens, in order to obtain an optical pickup device compatible for multiple disk formats having different thickness and having a miniaturization and low cost of manufacturing, as suggested by Park.

Regarding claim 2, The combination of Takekoshi et al. with Park as modified above would show wherein the plurality of semiconductor laser elements, are elements included in a semiconductor laser array having a plurality of lasing wavelengths (See Park -Abstract; col. 3, lines 27-55; col. 4, lines 32-51; Figs. 3,4).

Regarding claim 3, Takekoshi et al. does not teach details of construction of the semiconductor laser wherein the semiconductor laser array comprises a first laser element having a first active layer comprising a first semiconductor formed on a substrate; and a second laser element formed on the substrate, spaced with respect to the first laser element and having a second active layer comprising a second semiconductor having an energy gap larger than the energy gap of the first active layer, and wherein a height from the substrate surface to the second active layer is substantially the same as a height from the substrate surface to the first active layer.

However this feature is further teaches by Park (See Park -col. 3, lines 40-67 to col. 4, lines 1-26; Fig. 4).

Therefore the combination of Takekoshi et al. with Park as modified above would show wherein the semiconductor laser array comprises a first laser element having a first active layer comprising a first semiconductor formed on a substrate; and a second laser element formed on the substrate, spaced with respect to the first laser element and having a second active layer comprising a second semiconductor having an energy gap larger than the energy gap of the first active layer, and wherein a height from the substrate surface to the second active layer is substantially the same as a height from the substrate surface to the first active layer in order to facilitates the arrangement of structure, having a simplified structure and improving the efficiency of light as suggested by Park.

Regarding claim 5, Takekoshi et al. further discloses wherein a photodetector for receiving returned light beams from the optical information recording medium is mounted on the movable portion (See Abstract; col. 1, lines 5-13; col. 3, lines 5-67; col. 5, lines 16-34; Figs. 1,2,4).

Regarding claim 6, Takekoshi et al. further discloses wherein the plurality of semiconductor laser elements and the photodetectors are integrated via a substrate (See col. 4, lines 36-39; Fig. 3),

and the substrate is provided with a mirror reflecting laser beams emitted from the semiconductor laser element (See col. 4, lines 55-67 to col. 5, lines 1-15; Fig. 3).

Regarding claim 7, Takekoshi et al. further discloses wherein the plurality of semiconductor elements are elements included in a semiconductor laser array having a plurality of lasing wavelengths (See col. 4, lines 36-39; Fig. 3).

Regarding claim 10, Takekoshi et al. further discloses an information recording and reproducing apparatus on which an optical pick-up according to claim 1 is mounted (See col. 1, lines 5-13).

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takekoshi et al. U.S. patent No. 5,600,619 in combination with Park U.S. Patent No. 5,986,998 as applied to claim 3 above, and further in view of Imafuji et al. U.S. Patent No. 6,546,035.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in

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accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Takekoshi et al. in combination with Park, discloses all the limitation based on claim 3, as outlined above. Park further discloses wherein a height from the substrate surface to the second active layer is substantially the same as a height from the substrate surface to the first active layer (See col. 40-67 to col. 4, lines 1-26; Fig. 4)

But Takekoshi et al. in combination with Park fails to disclose wherein the second laser element has a height adjusting buffer layer including a third semiconductor that is first conductive type so that the height from the substrate surface to the second active layer is substantially the same as the height from the substrate surface to the first active layer.

However this feature is well known in the art as evidenced by Imafuji et al. which discloses wherein the second laser element has a height adjusting buffer layer including a third semiconductor that is first conductive type so that the height from the substrate surface to the second active layer is substantially the same as the height from the substrate surface to the first active layer (See col. 9, lines 66-67 to col. 10, lines 1-7; Fig. 1).

Therefore it would have been obvious to one with ordinary skill in the art at the time of the invention to having a height adjusting buffer layer including a third semiconductor that is first conductive type so that the height from the substrate surface to the second active layer is

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substantially the same as the height from the substrate surface to the first active layer in order to improve the crystallinity of semiconductor layers having a thickness adjusted for placing a second active layer is substantially the same as the height from the substrate surface to the first active layer as suggested by Imafuji et al.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

4. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takekoshi et al. U.S. patent No. 5,600,619 in combination with Park U.S. Patent No. 5,986,998 as applied to claim 1 above, and further in view of Nakanishi et al. U.S. Patent No. 6,473,248.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in

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accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claim 8, Takekoshi et al. in combination with Park, discloses all the limitation based on claim 1, as outlined above. Takekoshi et al. further has the desirability of having of obtain an optical pickup with a heat-radiating and/or cooling structure, to avoid increase in weight of a movable part and to improve the control characteristics of an actuator (See col. 1, lines 43-47).

But Takekoshi et al. in combination with Park fails to disclose wherein the supporting component comprise a plurality of metal members independent in electric potential respectively, and at least one of the plurality of metal members works as an electric feeder line with respect to the semiconductor laser element.

However this feature is well known in the art as evidenced by Nakanishi et al., which discloses wherein the supporting component comprise a plurality of metal members independent in electric potential respectively, and at least one of the plurality of metal members works as an electric feeder line with respect to the semiconductor laser element (See Abstract; col. 3, lines 24-41; col. 8, lines 1-54; Fig. 3).

Therefore it would have been obvious to one with ordinary skill in the art at the time of the invention to include a supporting component comprising a plurality of metal members

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independent in electric potential respectively, and at least one of the plurality of metal members works as an electric feeder line with respect to the semiconductor laser element in order to improve the control movements of the movable portion at the same time reduced the temperature of the laser and the photodetector having an optical pickup cooling structure and performing read and write as suggested by Nakanishi et al.

Regarding claim 9, Nakanishi et al. further discloses wherein a photodetector receiving returned light beams from the optical information medium is further mounted on the movable portion, and at least one of the plurality of metal members works as an electric feeder line with respect to the photodetector (See Abstract; col. 3, lines 24-41; col. 8, lines 1-54; Fig. 3).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 5,323,378 to Kim et al., which discloses a compact optical pickup in which the optical elements are mounted on an optical holder driven as a unitary structure.
- b. U.S. Patent No. 5,241,528 to Mohri et al., which discloses an optical pickup with integrated elements.

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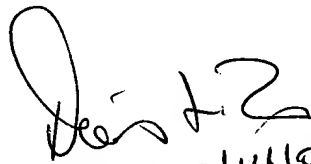
- c. U.S. Patent No. 5,687,155 to Fukakusa et al., which discloses an optical integrating element type optical pickup device.
- d. U.S. Patent No. 6,366,548 to Ohyama, which an optical pickup having two laser beams sources.
- e. U.S. Patent No. 5,933,402 to Lee et al., which discloses an optical pickup including at least two vertical cavity surface emitting lasers.
- f. U.S. Patent No. 6,496,469 to Uchizaki, which discloses an optical pickup including an integrated unit.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jorge L Ortiz-Criado whose telephone number is (703) 305-8323. The examiner can normally be reached on Mon.-Thu.(8:30 am - 6:00 pm), Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, HOF SASS R JEFFERY can be reached on (703) 305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6743 for regular communications and (703) 308-6743 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


DORIS H. TO 7/14/03
SUPERVISORY PATENT EXAMINER
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July 14, 2003